



# LINCOLN CHAFEE

## U.S. SENATOR

### RHODE ISLAND

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## **DEPARTMENT OF HOMELAND SECURITY AWARDS FARSOUNDER GRANT FOR UNDERWATER THREAT DETECTION SYSTEM**

**WASHINGTON, DC** – U.S. Senator Lincoln Chafee has been notified that FarSounder, Inc. will receive a Phase I Small Business Innovation Research (SBIR) grant in the amount of \$99,940 from the U.S. Department of Homeland Security. Located in Providence, FarSounder will utilize the award to develop a low cost 3-D sonar system for underwater threat detection. The system will be based on FarSounder's 3-D sonar technology and will utilize commercial off-the-shelf (COTS) components, which will leverage FarSounder's advanced processing techniques to increase the system's performance in comparison to currently available port security sonars. Chafee, a member of the Senate Committee on Homeland Security and Governmental Affairs, has made requests for this project's funding as part of the Department of Defense appropriations bill.

"Since its inception in 2001, FarSounder's revolutionary 3-D sonar imaging technology has put this local company at the forefront of marine navigation. With this grant by the Department of Homeland Security, FarSounder will be able to begin utilizing their sonar technology to develop an effective underwater threat detection system," Senator Chafee said. "I am proud to see these types of awards coming home to Rhode Island – both to bring revenues into our state, improving our economy, and to place Rhode Island's small businesses on the cutting-edge of protecting the citizens within our borders," he continued.

When completed, this new system will increase protection of ports, critical waterside infrastructures, and other fixed shoreline sites. Prevention of attacks affecting large areas of local populations such as those near LNG terminals will also be enhanced. The system will provide the first underwater port security system practical for use in all U.S. ports

and along extensive areas of U.S. coastlines and inland waterways. Additional commercial applications include a solution for the protection of endangered marine mammals by enabling effective localization, identification, and avoidance of these mammals, as well as a cost efficient localization and identification sonar appropriate for the U.S. fisheries industry to reduce by-catch (fish and/or other marine life that are incidentally caught with the targeted species). A low-cost on-board security sonar system for commercial cargo ships, oil tankers, passenger vessels, and large recreational boats will also be available.

The system will have the ability to detect open circuit divers, closed circuit divers, divers with propulsion assistance and underwater vehicles that approach or enter a designated security zone. FarSounder's solution will have a high probability of detection of real underwater threats and a low false alarm rate for these targets.

"We are very excited to be offered this opportunity to work with the Department of Homeland Security to enhance the nation's port security efforts. DHS's emphasis on rapid prototyping of successful technologies fits in well with our company's goals for our advanced sonar technology. We welcome the opportunity to live up to their expectations for our company," said Cheryl M. Zimmerman, FarSounder CEO. "I would also like to express my thanks to the RI Congressional Delegation for their continued support of FarSounder's efforts to bring high technology research and development projects to Rhode Island," she further stated.

The Phase I effort will entail a feasibility study and concept design for the 3-D underwater threat system. Through simulation, field-testing with existing hardware, and acoustic modeling, FarSounder will validate the key elements of the design. Phase I objectives are to:

- Develop a solution concept with effective performance and end usability in mind;
- Demonstrate that shallow water detection of targets in 3-D is possible;
- Demonstrate that detection of swimmer size targets is possible with FarSounder's 3-D approach;
- Study feasibility of target classification and identification; and
- Develop a hardware architecture that utilizes all COTS components to ensure affordable future product costs.

Phase II will deliver a prototype low cost, low power, small size system for incorporation into a multi-faceted Port Security System. The ultimate commercialized system will be easy to use and deploy, and will have a low probability of false alarm. It will also fall within the goal of less than \$100,000 per 1000 feet of protected asset.

FarSounder, Inc. is a Providence based technology company bringing to market a breakthrough in marine navigation. FarSounder's technology delivers critical information by giving mariners the ability to "see-ahead," underwater, in true 3-D with simultaneous range, bearing, and depth information. This technology has the potential to avert billions of dollars in damages attributable to marine groundings. It also can serve as an

enormously positive environmental force by detecting and thus protecting aquatic species such as the endangered Right Whale from fatal collisions with large vessels. Although forward-looking sonars exist in various forms, other technologies have very limited range in shallow water. This is precisely when the vessel's captain is in the greatest need of an accurate, real-time picture of the obstacles and water depths ahead of the vessel.

For more information, please visit [www.farsounder.com](http://www.farsounder.com)

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